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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,790	01/02/2001	Yasuharu Kudo	ALPSP010	1984

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BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER	
SHELEHEDA, JAMES R	

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/753,790	KUDO ET AL.	
	Examiner	Art Unit	
	James Sheleheda	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarick et al. (Jarick) (5,172,231) in view of O'Shaughnessy (5,663,675).

As to claim 1, Jarick discloses a frequency converter for a cable television transmitter (Fig. 1; column 1, lines 61-68), comprising: a frequency conversion unit (IF/UP convertor, 22) that executes frequency mixing of an intermediate frequency signal and a local oscillator signal to convert into a high frequency signal (up convertoring the IF signals using a local oscillator signal; column 2, lines 1-9) corresponding to a transmission channel (carrier frequency; column 2, lines 1-8), and a filter (BPF, 32) connected to an output of the frequency conversion unit (see Fig. 1), tuned to the high frequency signal corresponding to the transmission channel (wherein the filter is tuned to the signal frequency to allow the signal to pass; column 2, lines 10-12).

While Jarick discloses the use of a filter (BPF, 22), he fails to specifically disclose the use of plural stage variable tuning filters connected in cascade.

In an analogous art, O'Shaughnessy discloses the use of a bandpass filter (Fig. 10; column 26, lines 48-49) which utilizes a plurality of tunable filters (column 26, lines 41-53) cascaded in multiple stages (see Fig. 10; column 26, lines 34-37) for the typical benefit of providing a plurality of filters which are capable of tuning to a new center frequency as needed (column 26, lines 48-53).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Jarick's system to include the use of plural stage variable tuning filters connected in cascade, as taught by O'Shaughnessy, for the typical benefit of providing plurality of filters which are capable of synchronizing and tuning to a new center frequency as needed.

As to claim 3, Jarick and O'Shaughnessy disclose wherein the plural stage variable tuning filters are configured in three stages (see Fig. 10; wherein 1-N filter stages are used; column 26, lines 14-17).

As to claim 4, Jarick and O'Shaughnessy disclose wherein the plural stage variable tuning filters (Fig. 10, 1-N) are configured such that adjustment voltages (signals from RC oscillator, 1610; column 26, lines 23-29) from pass band adjusting means (Fig. 10, RC oscillator, 1610) independently adjust the pass band characteristics (wherein the passband is adjusted based upon changes in the R value; column 26, lines 30-37 and lines 45-53).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jarick and O'Shaughnessy as applied to claim 1 above, and further in view of Gabor 5,148,279.

As to claim 2, while Jarick and O'Shaughnessy disclose the use of plural variable tuning filters, they fail to specifically disclose wherein a filter is equipped with a trap circuit that removes the local oscillator signal.

In an analogous art, Gabor discloses an upconvertor (Fig. 1; column 3, lines 43-45) for use in a cable television transmitter (column 2, lines 20-28) which utilizes a band pass filter (50; column 4, lines 51-58) containing a trap circuit (column 2, lines 56-64) to remove the local oscillator signal (column 2, lines 56-64 and column 4, lines 53-58) for the typical benefit of preventing the local oscillator signal from interfering with the television signals (column 2, lines 60-64 and column 4, lines 55-58).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Jarick and O'Shaughnessy's system to include wherein a filter is equipped with a trap circuit that removes the local oscillator signal, as taught by Gabor, for the typical benefit of preventing the local oscillator signal from interfering with the television signals in a television transmitter.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jarick and O'Shaughnessy as applied to claim 4 above, and further in view of Bickley et al. (Bickley) (5,822,687).

As to claim 5, while Jarick and O'Shaughnessy disclose a pass band adjusting means (Fig. 10, RC oscillator, 1610) and generating an adjustment voltage to control the plural stage variable tuning filters (wherein the passband is adjusted based upon changes in the R value; column 26, lines 30-37 and lines 45-53), they fail to specifically disclose a memory that stores the pass band characteristics of the filters and a digital to analog converter that generates a dc adjustment voltage based on a pass band characteristics read from the memory.

In an analogous art, Bickley discloses a filter calibration system (Fig. 1; column 2, lines 45-51) wherein the tuning voltage for the filters tuning frequencies are stored in memory (column 4, lines 33-40) and a digital to analog convertor (Fig. 1, 28) which generates a dc adjustment voltage (Vtune; Fig. 3B, steps 80-88; column 3, lines 20-26) based upon filter characteristics read from the memory (Fig. 3B, step 84; column 5, lines 28-35 and column 2, lines 17-23) for the typical advantage of providing an inexpensive means to precisely tune filters in a transmitter (column 1, lines 63-67 and column 2, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Jarick and O'Shaughnessy's system to include a memory that stores the pass band characteristics of the filters and a digital to analog converter that generates a dc adjustment voltage based on a pass band characteristics read from the memory, as taught by Bickley, for the typical advantage of providing an inexpensive and precise means to tune bandpass filters in a television transmitter.

Conclusion

5. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

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Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (703)_____ - _____ on _____.
(Date)

Typed or printed name of person signing this certificate:

_____

Signature: _____

Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Sheleheda whose telephone number is (703) 305-8722. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Sheleheda
Patent Examiner
Art Unit 2614

JS

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600